49. (New) The method of claim 45 further comprising imaging the body tissue and controlling the phases, amplitudes, and frequencies in response to the imaging.

REMARKS

In response to the Office Action dated July 3, 2002, Applicants respectfully request reconsideration.

Claim 1 stands rejected for double patenting over claim 1 of U.S. Patent No. 6,135,971 and under 35 USC 102 as being anticipated by U.S. Patent No. 4,658,176 (the '176 patent). Claim 1 has been canceled, rendering these rejections moot.

Applicants have added new claims 33-49. These claims recite methods for depositing ultrasound energy in body tissue. The methods recite emitting ultrasound energy from apertures of different sizes with different center-to-center aperture spacings. The recited methods are not taught, disclosed, or suggested by any art of record, including the '176 patent.

Based on the foregoing, this application is believed to be in allowable condition, and a notice to that effect is respectfully requested. If the Examiner has any questions, he is invited to call the Applicants' Attorney at the number provided below.

Respectfully submitted,

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Date: December 20, 2002

CLAIMS AS PENDING AS OF RESPONSE DATED DECEMBER 20, 2002

33. (New) A method for depositing ultrasound energy in body tissue, the method comprising:

emitting ultrasound energy from a first aperture and a second aperture with a center of the first aperture being displaced a first distance from a center of the second aperture; and

emitting ultrasound energy from a third aperture having a center displaced a second distance from the center of the second aperture;

wherein the second distance is different than the first distance and the third aperture has a size that is different than at least one of a size of the first aperture and a size of the second aperture;

wherein the ultrasound energy is emitted from the apertures to produce a reduced grating-lobe beam of ultrasound energy in the body tissue; and

wherein the energy emitted from at least two of the first, second, and third apertures are produced in response to separate excitation signals.

34. (New) The method of claim 33 further comprising independently controlling phases of the ultrasound energy emitted from the first, second, and third apertures.

35. (New) The method of claim 34 wherein the phases are controlled to steer the beam through an angle up to approximately ninety degrees.

36. (New) The method of claim 34 wherein the phases are controlled to steer the beam to at least two distinct focal positions within the body tissue.

37. (New) The method of claim 33 further comprising independently controlling amplitudes of the ultrasound energy emitted from the first, second, and third apertures.

38. (New) The method of claim 33 further comprising independently controlling frequencies of the ultrasound energy emitted from the first, second, and third apertures.

39. (New) The method of claim 33 further comprising independently controlling phases, amplitudes, and frequencies of the ultrasound energy emitted from the first, second, and third apertures.

40. (New) The method of claim 39 wherein the phases, amplitudes, and frequencies are controlled such that the beam provides a substantially uniform temperature profile within a region of the body tissue.

41. (New) The method of claim 39 further comprising imaging the body tissue and controlling the phases, amplitudes, and frequencies in response to the imaging.

42. (New) The method of claim 41 wherein the imaging is magnetic resonance imaging.

43. (New) The method of claim 33 wherein the emitting emits ultrasound energy from the apertures with frequencies between about 0.1 MHz and about 100 MHz.

44. (New) The method of claim 33 wherein the separate excitation signals cause the energies emitted from the at least two of the first, second, and third apertures to have different phases.

45. (New) A method for depositing ultrasound energy in body tissue, the method comprising:

emitting ultrasound energy from a first plurality of apertures of a first size;

emitting ultrasound energy from a second plurality of apertures of a second size different from the first size, the first and second apertures disposed in an array such that centers of the apertures are displaced from each other by at least two different distances; and

independently controlling at least one of phases, amplitudes, and frequencies of the ultrasound energy emitted from the first and second pluralities of apertures;

wherein the ultrasound energy is emitted from the apertures to produce a reduced grating-lobe beam of ultrasound energy in the body tissue.

46. (New) The method of claim 45 wherein the phases are controlled to steer the beam through an angle up to approximately ninety degrees.

47. (New) The method of claim 45 wherein the phases are controlled to steer the beam to at least two distinct focal positions within the body tissue.

48. (New) The method of claim 45 wherein the phases, amplitudes, and frequencies are controlled such that the beam provides a substantially uniform temperature profile within a region of the body tissue.

49. (New) The method of claim 45 further comprising imaging the body tissue and controlling the phases, amplitudes, and frequencies in response to the imaging.

TRA 1690858v1